



REMCOR[®]

ICE/BEVERAGE DISPENSER

Models DB150-M
DB150-BM
DB150-BCM

Operator's Manual

Illustration in this space
Remove box after placing the
illustration

Part No. 91773
October, 1993
Revision A

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This Manual must be read and understood before installing or operating this equipment

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SAFETY INFORMATION

Recognize Safety Information

This is the safety-alert symbol. When you see this symbol on our machine or in this manual, be alert to the potentially of personal injury.

Follow recommended precautions and safe operating practices.



Understand Signal Words

A signal word - **DANGER**, **WARNING**, OR **CAUTION** is used with the safety-alert symbol. **DANGER** identifies the most serious hazards.

Safety signs with signal word **DANGER** or **WARNING** are typically near specific hazards.

General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.



Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Learn how to operate the machine and how to use the controls properly. Do not let anyone operate the machine without instructions. Keep your machine in proper working condition. Unauthorized modifications to the machine may impair function and/or safety and affect the machine life.

CO₂ (Carbon Dioxide) Warning

CO₂ Displaces Oxygen. Strict Attention *must* be observed in the prevention of CO₂ (carbon dioxide) gas leaks in the entire CO₂ and soft drink system. If a CO₂ gas leak is suspected, particularly in a small area, *immediately* ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentration of CO₂ gas will experience tremors which are followed rapidly by loss of consciousness and suffocation.

Shipping, Storing, Or Relocating Unit

CAUTION: Before shipping, storing, or relocating this Unit, the syrup systems must be sanitized and all sanitizing solution *must* be purged from the syrup systems. All water *must* also be purged from the plain and carbonated water systems. A freezing ambient temperature will cause residual water remaining inside the Unit to freeze resulting in damage to internal components of the Unit.

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SAFETY PRECAUTIONS

Always disconnect power to the dispenser before servicing or cleaning.

Never Place hands inside of hopper or gate area without disconnecting power to the dispenser. Agitator rotation occurs automatically when dispenser is energized.

This ice dispenser has been specifically designed to provide protection against personal injury and eliminates contamination of ice. To insure continued protection and sanitation, observe the following.

Always be sure the removable lid is properly installed to prevent unauthorized access to the hopper interior and possible contamination of the ice.

Always be sure the upper and lower front panels are securely fastened.

Always keep area around the dispenser clean of ice cubes.



CAUTION: Dispenser cannot be used with crushed or flaked ice.

Use of bagged ice which has frozen into large chunks can void warranty. The dispenser agitator is not designed to be an ice crusher. Use of large chunks of ice which "jam up" inside the hopper will cause failure of the agitator motor and damage to the hopper. If bagged ice is used, it must be carefully and completely broken into small, cube-sized pieces before filling into the dispenser hopper.

GENERAL DESCRIPTION

This section gives the Unit description, theory of operation, and design data for

IMPORTANT: To the user of this manual – This manual is a guide for installing, operating, and maintaining this equipment. Refer to the Table of Contents for page location for detailed information pertaining to questions that arise during installation, operation, service, or maintenance of this equipment.

DESCRIPTION

The REMCOR® "DB" series of ice dispensers solve your ice and beverage service needs in the sanitary, space saving, economical way. Designed to be manually filled with ice from any remote ice making source, these dispensers will dispense cubes (up to 1-1/4" in size), cubelets and hard-chipped or cracked ice, and in addition, several flavors of post-mix beverages. "B" models contain beverage faucets only and must be supplied with cold product from any remote cold plate of refrigerated soda factory.

"BC" units include faucets and cold plates and are designed to be supplied direct from syrup tanks and carbonator, with no additional cooling required.

IMPORTANT: for dispensing Scotsman "pellet" style ice (Model MH750 Ice Makers), RemcorR part number 02234 Ice Diverter kit must be installed on the dispenser. (See INSTALLATION INSTRUCTION on page 5).

Table 1. Specifications

Table 1. Specifications	
Model:	DB150S-M
Ice Storage:	150 lbs.
Maximum Number of Faucets Available:	Not Available
Built-in Cold Plate	No
Electrical:	120/1/60
Dimensions:	22"W x 32-1/2" D x 36-1/2" H
Model:	DB150S-BM
Ice Storage	150 lbs.
Maximum Number of Faucets Available	6
Built-in Cold Plate	No
Electrical:	120/1/60
Dimensions:	22"W x 32-1/2" D x 36-1/2" H
Model:	DB150S-BCM
Ice Storage	150 lbs.
Maximum Number of Faucets Available	6
Built-in Cold Plate	Yes
Electrical:	120/1/60
Dimensions:	22"W x 32-1/2" D x 36-1/2" H

INSTALLATION

This section covers unpacking and inspection, selecting location, installing Unit, preparing for operation, and operation.

UNPACKING AND INSPECTION

NOTE: The Unit was thoroughly inspected before leaving the factory and the carrier has accepted and signed for it. Any damage or irregularities should be noted at the time of delivery (or not later than 15 days from date of delivery) and immediately reported to the delivering carrier. Request a written inspection report from Claims Inspector to substantiate any necessary claim. File claim with the delivering carrier, *not* with IMI Cornelius Inc.

1. Locate the dispenser indoors on a level counter top.

LEG OPTION

Unpack the 4 legs and install them into the threaded holes provided in the bottom of the unit. The installer must provide flexibility in the product and utility lines to permit shifting the position of the dispenser sufficiently to clean the area beneath it.

NOTE: before installing legs, the plastic plugs must be removed by pushing the center in and removing plug.

COUNTER MOUNTING

The ice dispenser must be sealed to the counter. The template drawing indicates openings which must be cut in the counter. Locate the desired position for the dispenser, then mark the outline dimensions on the counter using the template drawings. Cut openings in counter.

Apply a continuous bead of National Sanitation Foundation (NSF) listed silastic sealant (Dow 732 or equal) approximately 1/4" inside of the unit outline dimensions and around all openings. Then position the unit on the counter within the outline dimensions. All excess sealant must be wiped away immediately.

2. Utilities: DB150S-M Model: The electrical power cord, air/CO₂ line and dispenser drain (3/4" FPT) are located at the rear of the unit.

DB150S-BM Models: All utilities are routed out the bottom of the unit. See "Mounting Template" on page 6 for locating the required clearance holes in the counter for these utility lines.
3. Connect the drain tube to an open drain. For DB150 models, the drain line size must be 3/4" IPS (or equal) and must continuously pitch downward away from the unit and contain no "traps" or improper drainage will result.

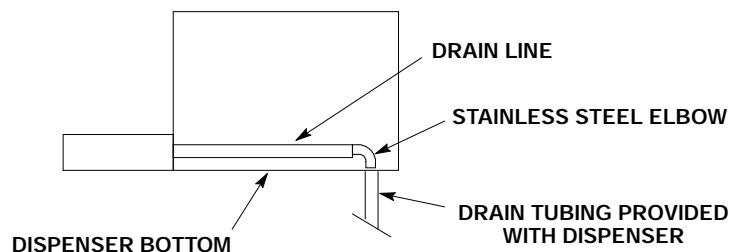


FIGURE 1. SINK DRAIN ASSEMBLY -B, -BC MODELS

- A. Use tube, clamp and insulation provided to assembly drain.
- B. To assure proper drainage, do not allow "trap" to form in drain line. Be sure drain line runs flat with bottom of dispenser (See Figure 1)

4. “-BM”, “-BCM” models: connect the beverage system product lines as indicated in “B” and “BC” units, pages 7 and 8 respectively. This work should be done by a qualified serviceman. Note that the hoses are marked with number (1 through 6) for syrup connections and “CW” for carbonated water connections.
5. Regulated and filtered CO₂ gas pressure or compressed air is required to operate the dispenser portion control ice dispensing system. Proceed as follows to connect CO₂ gas pressure source line to the dispenser.
 - A. Connect and route CO₂ line from outlet side of the CO₂ regulator assembly up to the dispenser.
 - B. Connect CO₂ source line to dispenser inlet line labeled “AIR/CO₂”.
 - C. Set regulator outlet pressure to 50 psi.

IMPORTANT: maximum air/CO₂ operating pressure is 50 psig.

6. Clean the hopper interior (see CLEANING INSTRUCTIONS).
7. Connect the power cord to a 120 volt, 60 cycle, 3-wire grounded receptacle.

KIT 02234 INSTALLATION INSTRUCTIONS

NOTE: For dispensing Scotsman NM650 “nugget” style ice and Wilshire MCC500 and MCC700 compressed ice cubes.

1. Disconnect power to dispenser.
2. Remove upper front panel from dispenser.
3. Remove ice chute and discard gate restrictor.
4. Reinstall front panel and energize unit.

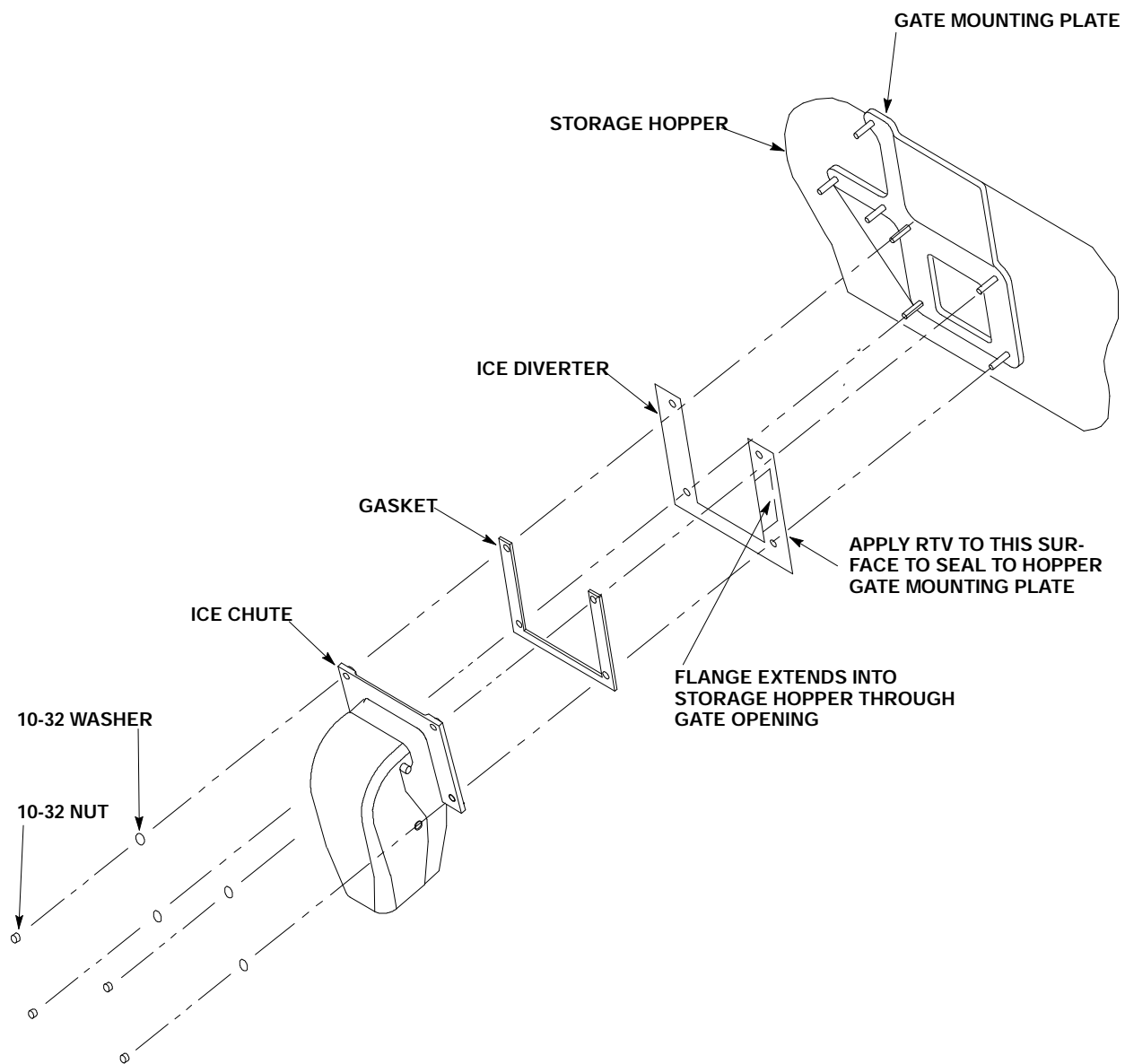


FIGURE 2. ICE DIVERTER

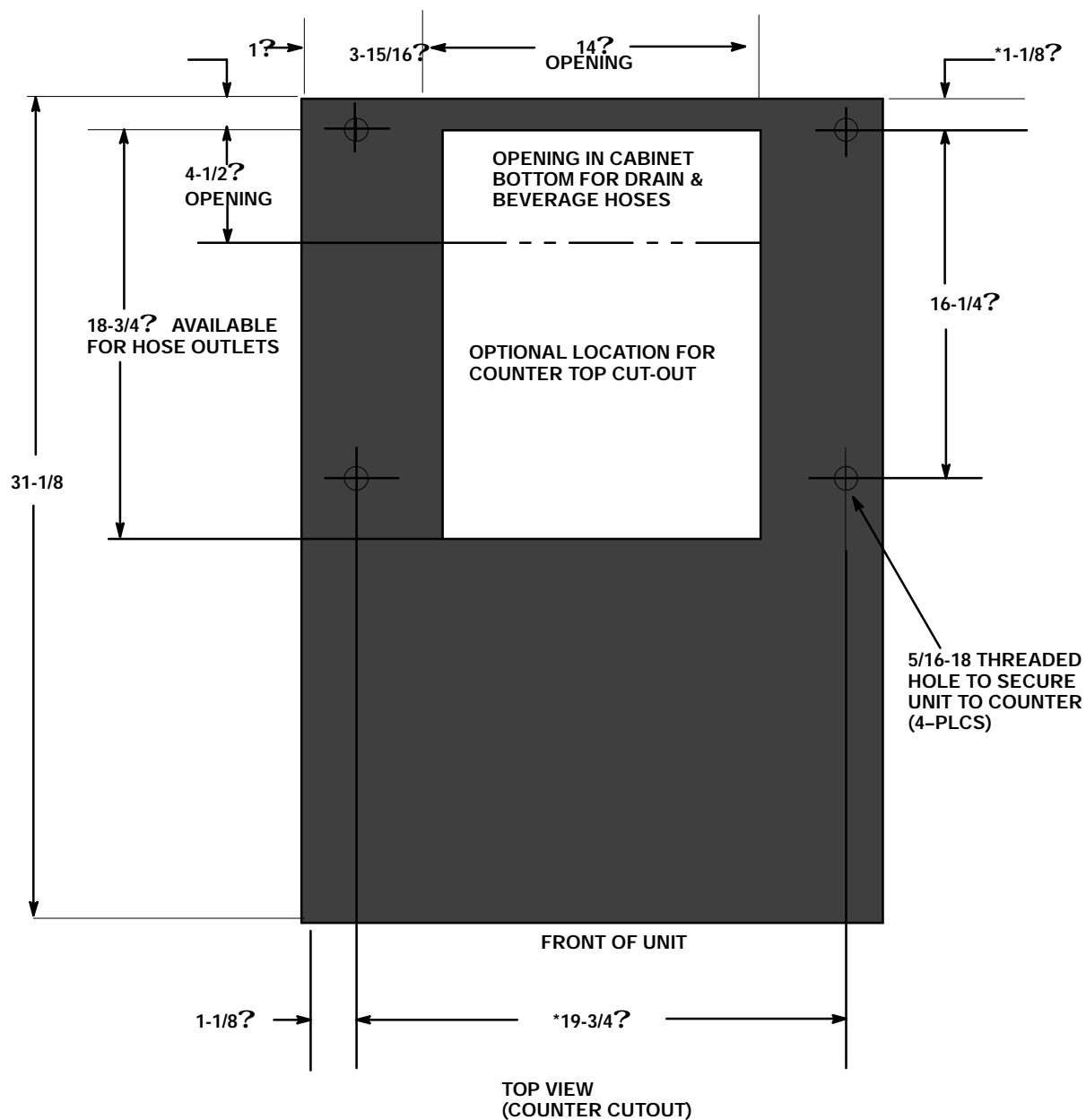


FIGURE 3. MOUNTING TEMPLATE

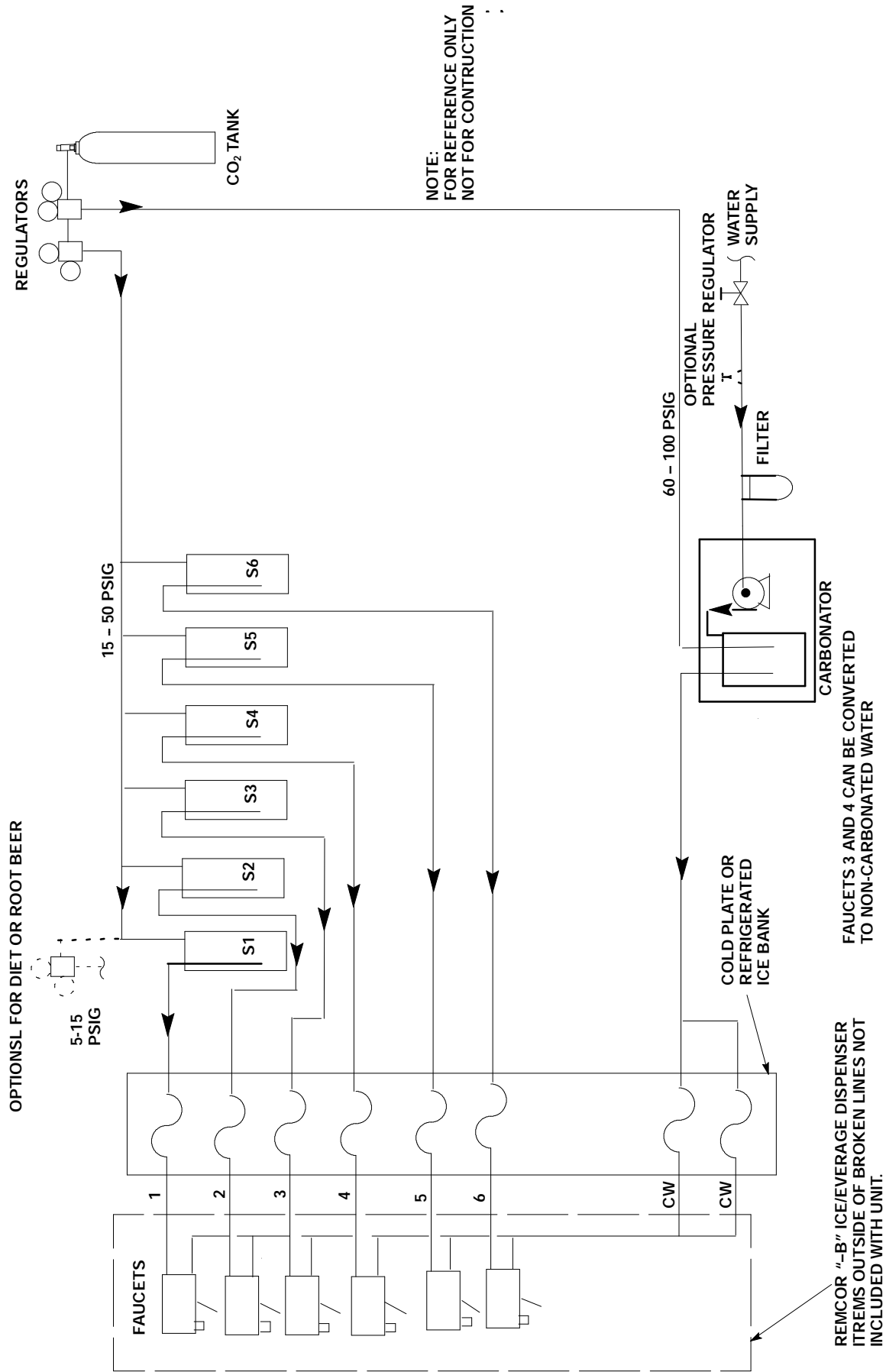


FIGURE 4. FLOW DIAGRAM "-B" MODELS

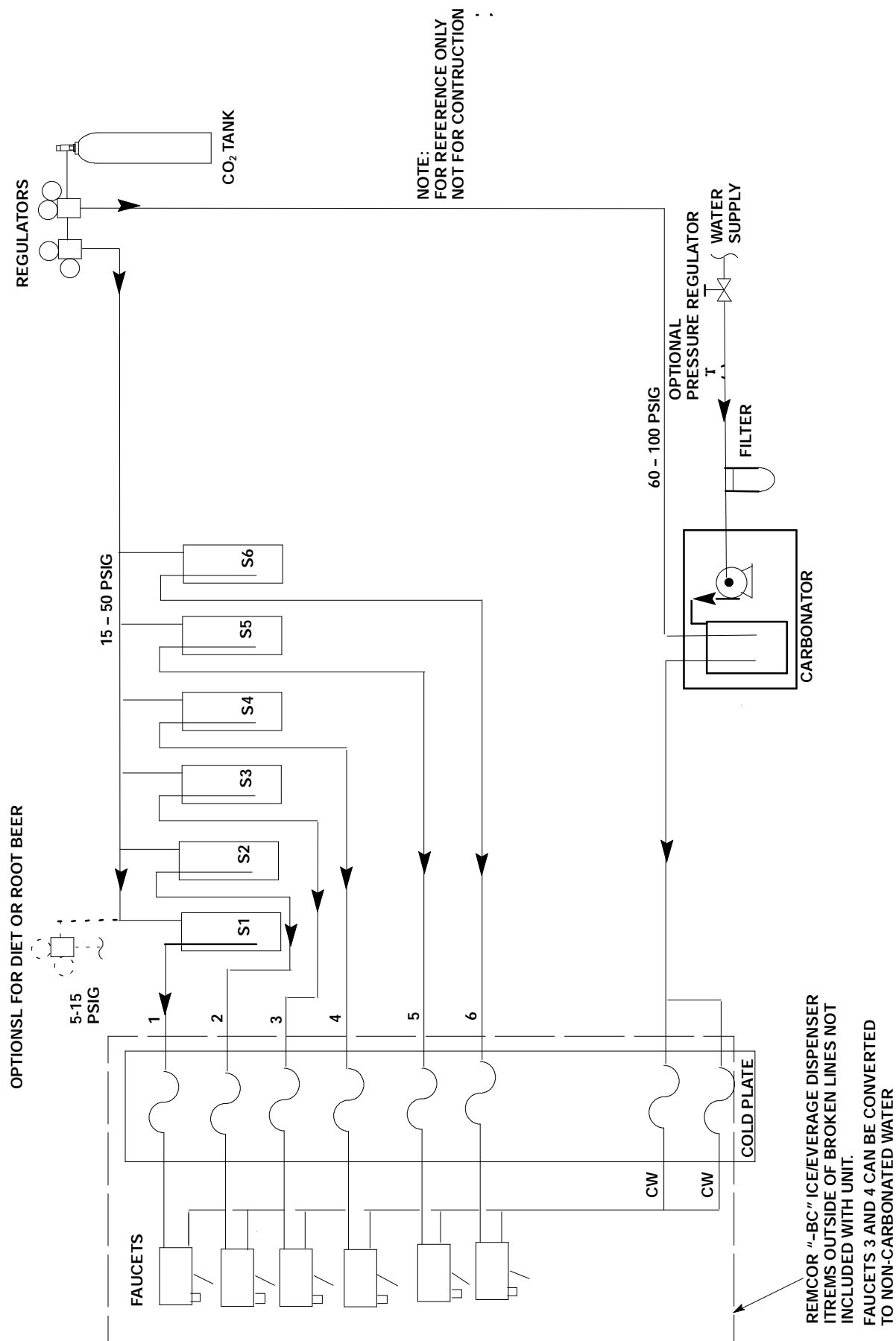


FIGURE 5. FLOW DIAGRAM MODEL "-BC"

MAINTENANCE

The following dispenser maintenance should be performed at the intervals indicated.

DAILY (or as required)

Remove foreign material from vending area sink to prevent drain blockage.

WEEKLY (or as required)

Clean vending area. Check for proper water drainage from the vending area sink.

MONTHLY

Clean and sanitize the hopper interior (see CLEANING INSTRUCTIONS).

START-UP AND OPERATING INSTRUCTIONS

Fill the hopper with ice and replace the lid. Allow 10 to 15 minutes for the cold plate to cool down. Repeat this procedure whenever the dispenser has been standing overnight or other long periods without ice use. On "B" and "BC" models, start up the beverage system and adjust faucets to the proper brix. Contact your local syrup distributor for complete information on the beverage system.

To dispense ice, hold cup under ice chute and press the appropriate size button on the ice portion control located above the ice chute. An extra ice portion may be obtained by pressing the increase key () before pressing the size button. Pushing the button/lever on any faucet will provide beverage of the appropriate flavor.

NOTE: Use caution to avoid spilling ice when filling dispenser. Clean up immediately any spilled ice from filling or operating the unit. To prevent contamination of ice, the lid must be installed on the unit at all times.

FIGURE 6. ICE PORTIONING

ICE PORTIONING SYSTEM OPERATION

The ice portioning system consists of three main components:

1. Ice portion control
2. Ice gate mechanism
3. Solenoid operated air valve

When a size button on the ice portion control is pressed, the control applies a voltage to the air valve for a brief period of time. The air cylinder attached to the ice gate will then open the ice gate for a short time, allowing ice to be dispensed from the ice chute.

The ice portion control has five modes to allow adjustment of the ice portions and for normal operation they are as follows:

<u>MODE</u>	<u>INDICATOR STATUS</u>
Normal operation	Green
Cleaning mode	Red/Amber flashing
Normal ice portion adjustment	Amber
Extra ice portion adjustment	Red
Agitation refill time adjustment	Amber flashing

The control will return to Normal Operation Mode (green indicator) automatically if a button has not been operated for a period of one minute whenever one of the three adjustment modes have been accessed.

NORMAL OPERATION

To dispense ice, hold a cup directly under the ice chute, then press the appropriate size button on the ice portion control. To obtain a full cup of ice, press the increase button followed by the appropriate size button. The ice portion control will not dispense ice and will display a flashing green indicator light if sufficient ice is not available in the ice chute to dispense the selected size. The indicator light will return to solid green and ice dispensing will resume after the ice chute has been refilled.

The amount of ice dispensed for each size is changed in the Normal and Extra Ice Adjustment Modes. To access the adjustment modes, press the decrease and increase buttons at the same time. The control will advance to the next mode in the sequence as shown in the table above and the indicator light will change to identify which mode is currently active.

CLEAN MODE

Access this mode when cleaning the ice chute. Refer to Cleaning Instructions on page 12.

NORMAL ICE PORTION ADJUSTMENT

From the Normal Operation Mode (green indicator), press both the decrease and increase buttons at the same time twice. The amber indicator verifies that the normal portion adjustment mode has been accessed.

To change the amount of ice dispensed, press and hold down the size button for the desired size to be changed. While holding the size button, press the decrease or increase button to decrease/increase the ice portion size. The amber indicator turns off briefly each time the decrease or increase button is pressed. When the minimum ice portion adjustment has been reached, the indicator will flash at a slow rate; at the maximum adjustment, the indicator will flash at a fast rate. After releasing the size button, the indicator light will flash green for five seconds. During this time period, a sample can be obtained to check the portion size by pressing the size key. The indicator light will return to amber (normal portion adjustment mode) after the sample is d

The indicator light will flash red after dispensing a sample, if an open circuit exists in the ice gate cylinder switch wiring to the ice portion control or if an ice gate binding condition occurred during the sample. The indicator light will display solid red briefly after a sample is dispensed if the ice gate cylinder switch was shorted.

To return to Normal Operation, press the decrease and increase buttons at the same time, twice.

EXTRA ICE PORTION ADJUSTMENT

The adjustment of Extra Ice Portions is accomplished in the same manner as Normal Ice Portions, except the indicator light displays red. To access this mode, press both the decrease and increase buttons simultaneously three time from the Normal Operation Mode (green indicator). The indicator will display red.

AGITATION REFILL TIME ADJUSTMENT

To adjust the amount of ice chute refill agitation, begin by accessing the Extra Ice Portion Adjustment Mode (red indicator). Next, press and hold for the decrease and increase buttons for three seconds until the indicator flashes amber. The indicator will flash up to four times; one flash corresponds to the minimum amount of refill agitation and four flashes corresponds to the maximum amount of refill agitation. Change the amount of refill agitation by pressing one of the four size buttons – the small button representing the minimum amount of refill agitation. Increase the amount of refill agitation if the ice chute does not refill properly after dispensing ice. To return to Normal Operation Mode, press the decrease and increase buttons at the same time.

CLEANING INSTRUCTIONS



WARNING: DISCONNECT ALL POWER BEFORE CLEANING. Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper, top cover and the agitator disk, as damage may result. Do not use solvents or other cleaning agents, as they may attack the plastic material.

DISPENSER (All Models)

1. Clean the ice storage hopper at least once a month.
2. Remove center screw and washer on agitator disk and lift off the agitator and the agitator disk assembly. Wash and rinse them thoroughly.
3. Wash down the inside of the hopper and top cover with a mild detergent solution and rinse thoroughly to remove all traces of detergent.
4. Replace the agitator.
5. Sanitize the inside of the hopper and agitator with a solution of 1 ounce of household bleach in 2 gallons of water (200 PPM).
6. Replace the agitator disk. Sanitize as described in Step 5. Be sure center screw and washer are replaced and screw is tight.
7. Clean and sanitize the ice chute as described below:
 - A. Enter the Clean Mode of the ice portion control by pressing the decrease and increase buttons at the same time. The indicator light will alternately display red/amber.
 - B. To empty the ice from the ice chute, press any of the size buttons. The ice gate will then open to allow the ice chute to empty. The ice gate will automatically close after the ice chute as been emptied.
 - C. Remove the 2 thumbscrews attaching the upper service panel and remove the panel.
 - D. Remove the 2 thumbscrews attaching the ice chute strap and remove the strap
 - E. Remove the 4 thumbscrews that secure the ice tube to the ice hopper. Remove the ice chute and gate cover. Power to the ice portion control and beverage valves will be interrupted while the ice chute is removed.
 - F. Wash ice chute, gate slide and gate cover in detergent soap solution. Then rinse thoroughly with plain water. Sanitize as described in Step 5.
 - G. Replace components removed for cleaning in reverse order of removal.
 - H. Portion control will automatically return to Normal Operating Mode (green Indicator) after the ice chute is replaced.

COLD PLATE (-BC Models)

1. Carefully remove screws holding beverage faucet panel and bring forward.
2. Slide the cold plate cover back. (Remove shipping tape and discard.)
3. Remove any debris from the drain trough and spring. Check that drain hole is not clogged.
4. Wash down the inside of the cold plate, tray and cover with a mild detergent solution and rinse. A small, long-handled brush will be found helpful in reaching the corners.

5. Slide the cover forward, taking care that it is securely positioned on the cold plate.
6. Replace beverage faucet panel.

BEVERAGE SYSTEM (-B, -BC Models)

1. Remove faucet spouts, wash in mild detergent, rinse and replace.
2. Disconnect electrical power to the carbonator. Shut off the water supply and close the CO₂ regulator to the carbonator.
3. Disconnect the syrup tanks from the system.
4. Energize the beverage faucets to purge the remaining soda water in the system.
5. Use a clean 5 gallon tank for each of the following:
 - A. **Cleaning Tank** – Fill with hot (120 - 140) potable water.
 - B. **Sanitation Tank** - Fill with a chlorine sanitizing solution in the strength of 1 ounce of household bleach (sodium hypochlorite) to 2 gallons of cold (ambient) potable water (200 PPM).
6. Repeat the following procedure on each of the units syrup product lines.
 - A. Connect the cleaning tank to the syrup line to be sanitized and to the CO₂ system.
 - B. Energize the beverage faucet until the liquid dispensed is free of any syrup.
 - C. Disconnect the cleaning tank and hook-up the sanitizing tank to the syrup line and CO₂ systems.
 - D. Energize the beverage faucet until the chlorine sanitizing solution is dispensed through the faucet. Flush at least 2 cups of liquid to insure that the sanitizing solution has filled the entire length of the syrup line. Allow sanitizer to remain in lines for 20 minutes.
 - E. Disconnect the sanitizing tank. Hook-up the product tank to the syrup line and to the CO₂ system.
 - F. Energize the faucet to flush the sanitizing solution from the syrup line and faucet. Continue draw on the faucet until only syrup is dispensed.
7. Repeat Step 2 in reverse order to turn on the carbonator. Dispense at least 1 cup of beverage from each faucet. Check taste. Continue to flush, if needed, to obtain a satisfactory tasting drink.

TROUBLESHOOTING

IMPORTANT: Only qualified personnel should service internal components or electrical wiring.



WARNING: If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO₂ system, stop dispensing, shut off the CO₂ supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

Trouble	Probable Cause	Remedy
BLOWN FUSE OR CIRCUIT BREAKER.	A. Short circuit in wiring.	A.
	B. Defective agitator motor.	B.
SLUSHY ICE. WATER IN HOPPER.	A. Blocked drain.	A.
	B. Unit not level.	B.
	C. Poor ice quality due to water quality or icemaker problems.	C.
	D. Improper use of flaked ice.	D.
BEVERAGES DO NOT DISPENSE.	A. No 24 volt power to faucets.	A.
	B. No CO ₂ pressure.	B.
BEVERAGE TOO SWEET.	A. Carbonator not working.	A.
	B. No CO ₂ pressure in carbonator.	B.
	C. Faucet brix requires adjusting.	C.
BEVERAGE NOT SWEET ENOUGH.	A. Empty syrup tank.	A.
	B. Faucet brix requires adjusting.	B.
BEVERAGE NOT COLD (UNITS WITH BUILT-IN COLD PLATE)	A. Unit standing with no ice in hopper - no ice in cold plate cabinet.	A.

NOTE: Contact your local syrup or beverage equipment distributor for additional information and troubleshooting of beverage system.

TROUBLESHOOTING ICE DISPENSING SYSTEM

NO ICE DISPENSED.	A. Ice bin cover not in place.	A. Install ice bin cover.
	B. Insufficient ice supply in ice bin.	B. Replenish ice supply as instructed.
	C. Ice in ice bin bridged (stuck together).	C. Gently tap on ice to break it loose.
	D. No electrical power to dispenser.	D. Plug in dispenser power cord, or check fuse or circuit breaker.
	E. Insufficient or no CO ₂ supply to dispenser.	E. Restore CO ₂ supply to dispenser.
	F. Inoperative ice portion controller.	F. Replace ice portion controller.

Trouble	Probable Cause	Remedy
	G. Inoperative ice agitator motor.	G. Replace ice agitator motor.
	H. Inoperative gate cylinder.	H. Replace gate cylinder.
	I. Inoperative gate solenoid.	I. Replace gate solenoid.
	J. Defective motor capacitor.	J. Replace capacitor.
	K. Ice gate not aligned to ice chute.	K. Check alignment of ice gate to slot in ice chute.
	L. Agitate relay wiring incorrect.	L. Red wire should be connected to "1" terminal of relay coil.

FIGURE 7. ICE/SOFT DRINK POST-MIX DISPENSER

Item No.	Part No.	Name	Qty.
115	52087	Gasket, Cold Plate Drain	1
116	52089	Ice Bin Cover	1
117	27559	Cup Lid Cover	1
118	27884	Service Panel	1
119	32839	Module Ice Portion Control	1
120	31934	Beverage Valve Power Switch	1
121	31205	Light Indicator, 120 VAC	1
121	32830	Light Indicator, 220 VAC	1
122	70861	Grill	1
123	70478	Clip	4
124	70055	Nut Clip	2
125	27882	Splash Panel	1
126	52064	Drip Tray	1
127	27543	Drip Tray Cabinet Extension	1
128	10145	Mounting Pin, Drip Tray	2
129	51455	Rear, Panel	1
130	70449	Screw	2
131	70450	Washer	2
132	70451	Nut	2
133	70075	Nut	2
134	22139	Bracket, Light Indicator	1
135	70171	Screw	6



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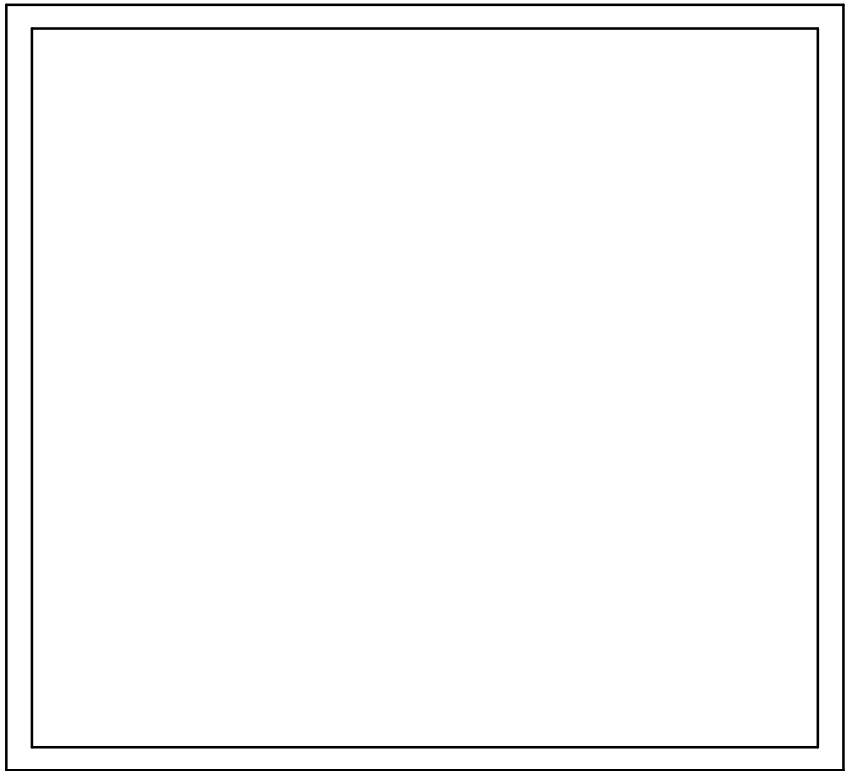
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WARRANTY

IMI Cornelius Inc. and Remcor Products Company warrants that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your Cornelius and or Remcor product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number, serial number and the date of purchase.

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